

**IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE**

POWER INTEGRATIONS, INC.,	:	
	:	
Plaintiff,	:	
	:	
v.	:	Civ. No. 08-309-JJF-LPS
	:	
FAIRCHILD SEMICONDUCTOR	:	
INTERNATIONAL, INC.,	:	
FAIRCHILD SEMICONDUCTOR	:	
CORPORATION, and SYSTEM	:	
GENERAL CORPORATION,	:	
	:	
Defendants.	:	

**REPORT AND RECOMMENDATION  
REGARDING CLAIM CONSTRUCTION**

Pending before the Court in this patent infringement action is the parties' request for construction of disputed claim terms. In this Report & Recommendation, I provide my recommendation as to the proper construction of the claims.

**BACKGROUND**

**A. Procedure**

Plaintiff, Power Integrations, Inc. ("Power"), filed its complaint against Defendants, Fairchild Semiconductor International, Inc., Fairchild Semiconductor Corporation, and System General Corporation (collectively, "Fairchild") on May 23, 2009. (D.I. 1) On July 15, 2009, the parties filed a Joint Claim Construction Chart and Exhibits ("JCCC"), identifying the claim terms they believe require construction and providing the intrinsic and extrinsic evidence on which their competing contentions rely. (D.I. 109) Initial briefing on claim construction was completed

on September 2, 2009. (D.I. 138, 140) The parties submitted video tutorials, providing the Court with relevant technical background, on September 10, 2009. (D.I. 145) I held a *Markman* claim construction hearing on September 23, 2009. (D.I. 190) Supplemental briefing concluded on October 29, 2009. (D.I. 187)

The parties addressed ten claim terms during the claim construction hearing, per my order of July 22, 2009. (D.I. 112) While I recognize that the Court has an obligation to construe all disputed claim terms by the time the case is submitted to a jury, *see O2 Micro Int'l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1363 (Fed. Cir. 2008), this does not preclude the Court from placing limitations on the number of terms to be construed at an earlier point in the case, *see, e.g., Ciba Specialty Chems. Corp. v. Hercules, Inc.*, 436 F. Supp. 2d 670, 677 (D. Del. 2006).

## **B. The Patents-In-Suit**

All five of the patents-in-suit are directed to switched mode power supplies, also known as “DC output” power supplies or power converters. (D.I. 118 at 2; D.I. 122 at 4, 18) These types of power supplies adjust the level of current or voltage that an electronic device receives when plugged into a power source like an A/C wall outlet. (D.I. 118 at 2; D.I. 122 at 4, 19) “Power converters usually include a transformer to isolate the input terminals on the primary side of the transformer from the output terminals on the secondary side.” (D.I. 122 at 4) They generally use some form of switch to transfer the electricity coming from the power source to the output terminal of the power converter itself. (D.I. 122 at 4; D.I. 118 at 2-3) Prior art power supplies regulated the frequency of the switch (i.e., power transfer across the power converter’s transformer) by using a sensor at the transformer’s output terminals. (D.I. 122 at 4; D.I. 118 at 2-3) Both parties’ patents-in-suit seek to make this process more streamlined and less expensive by

overcoming the need to sense directly the current at the transformer's output terminals by using "primary-side control," which relies on feedback signals generated on the primary (input) side of the transformer to sense what is happening on the secondary, or output, side of the transformer. (D.I. 118 at 2-3; D.I. 122 at 4)

The switching process inside a power converter or switched mode power supply repeats itself by turning on and off at a rate that can be fixed, "typically driven by the frequency of an oscillator circuit." (D.I. 118 at 2; *see also* D.I. 122 at 5.) Because this switching usually happens very often, the power supply will generate electromagnetic waves at a high frequency, which can interfere with other nearby electronic devices. (D.I. 118 at 2) This interference, called EMI, can be lessened by varying the frequency at which the switch turns on and off (*i.e.*, charging and discharging the transformer) by using techniques like frequency jittering (D.I. 118 at 2) and frequency hopping (D.I. 122 at 5).

When cables connect power converters to the electronic devices they supply with electricity, some of the electricity that flows from the output terminal of the power converter across the cable is lost before it reaches the device. (D.I.118 at 3; D.I. 140 at 1-2) Thus, some method of increasing the current that flows from the converter is necessary to compensate for this drop in power due to the cable's length. (D.I. at 3; D.I. 140 at 1-2)

**1. Fairchild Patents-in-Suit**

**a. '780 Patent**

U.S. Patent No. 7,061,780 ("the '780 patent"), entitled "Switching Control Circuit With Variable Switching Frequency For Primary-Side-Controlled Power Converters," was granted by the U.S. Patent and Trademark Office ("PTO") on June 13, 2006. The disputed terms to be

construed in the '780 patent appear in independent claims 1 and 13. Claim 1, for example, is shown below, with the disputed language emphasized:

1. A switching control circuit for a primary-side-controlled power converter, comprising:

a switch for switching a transformer; wherein said transformer is coupled to an input voltage of the power converter;

a sense device, which is coupled to said transformer for sensing current or/and voltage of said transformer;

a switching signal, coupled to said switch for regulating an output voltage and a maximum output current of the power converter; and

a controller, coupled to said transformer to generate a first feedback signal and a discharge-time signal by ***multi-sampling*** a voltage signal and a discharge time of said transformer ***during an off-time of said switching signal***, said controller further coupled to said sense device to generate a second feedback signal in response to said discharge-time signal and a current signal of said transformer, wherein said controller generates said switching signal in response to said first feedback signal, said controller controlling a switching frequency of said switching signal in response to said second feedback signal.

'780 patent, col. 13 line 61 to col. 14 line 15; *see also* JCCC at 27-29.

**b. '972 Patent**

U.S. Patent No. 7,259,972 ("the '972 patent"), entitled "Primary-Side-Control Power Converter Having a Switching Controller Using Frequency Hopping and Voltage and Current Control Loops," was issued on August 21, 2007. The disputed terms in the '972 patents appear in claims 1, 6, and 15:

1. A power converter comprising:

a switch, responsive to a switching signal, to control electrical power in the power converter; and

***a controller to generate the switching signal and to control the switching signal in response to a first feedback signal associated with a voltage control loop and a second feedback signal associated with a current control loop;***

wherein the controller includes a pattern generator to generate a digital pattern and the controller uses the digital pattern for use in generating the switching signal as a frequency-hopping switching signal to the switch.

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6. The power converter of claim 5, wherein the controller generates the first feedback signal by ***sampling a voltage*** from the auxiliary winding of the transformer ***and a discharge time*** of the transformer.

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15. A method for regulating power in a power converter, comprising:

receiving electrical power from input terminals;

***controlling a switching signal to regulate the connection of the electrical power to output terminals in response to a first feedback signal associated with a voltage control loop and a second feedback signal associated with a current control loop;***

generating a frequency-hopping switching signal in order to reduce at least electro-magnetic interference (EMI); and

generating a digital pattern for use in generating the frequency-hopping switching signal.

‘972 patent, col. 15 lines 22-29, 51-54; *see also* JCCC at 34-37, 60-64.

**c. '595 Patent**

U.S. Patent No. 7,352,595 ("the '595 patent"), entitled "Primary-Side Controlled Switching Regulator," was issued on April 1, 2008. The disputed terms in the '595 patent appear in claims 16, 17, 22, and 27. Claims 16 and 17 are representative of the terms in dispute:

16. A switching power converter, comprising:
- a transformer, for transferring the energy from a primary-side to a secondary side of the transformer;
  - a switching device, for switching the transformer;
  - a control circuit, coupled to the transformer for generating a switching signal to switch the switching device and to regulate the output of the switching regulator;
- wherein the control circuit including:
- a first circuit, coupled to the transformer for generating a first signal by measuring a reflected signal of the transformer;
  - a ***second circuit, producing a second signal*** in response to a current signal, wherein the current signal represents a primary-side switching current of the transformer;
  - a first feedback circuit, generating a first feedback signal in response to the first signal;
  - a second feedback circuit, generating a second feedback signal in response to the second signal; and
  - a switching control circuit, generating the switching signal in response to the first feedback signal and the second feedback signal.

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17. The switching power converter as claimed in claim 16, wherein the first feedback circuit further including a first reference signal for generating the first feedback signal in response to the first signal, and the ***first reference signal is varied in response to the change of the second signal.***

‘595 patent, col. 14 lines 15-35, 37-41; *see also* JCCC at 79-80.

**2. Power Integrations’ Patents-in-Suit**

**a. ‘851 Patent**

U.S. Patent No. 6,107,851 (“the ‘851 patent”), entitled “Offline Converter With Integrated Softstart and Frequency Jitter,” was issued on August 22, 2001. The disputed terms in the ‘851 patent appear in claim 11:

11. A regulation circuit comprising:
- a first terminal;
  - a second terminal;
  - a feedback terminal coupled to disable the regulation circuit;
  - a switch comprising a control input, said switch allowing a signal to be transmitted between said first terminal and said second terminal according to a drive signal provided at said control input;
  - a frequency variation circuit that provides a *frequency variation signal*;
  - an oscillator that provides an oscillation signal having a frequency range, said frequency of said oscillation signal varying within said frequency range according to said frequency signal, said oscillator further providing a maximum duty cycle signal comprising a first state and second state; and
  - a drive circuit that provides said drive signal when said maximum duty cycle signal is in said first state and said regulation circuit is not disabled.

‘851 patent, col. 13 lines 23-44; *see also* JCCC at 18-21.

**b. '876 Patent**

U.S. Patent No. 6,249,876 ("the '876 patent"), entitled "Frequency Jittering Control For Varying The Switching Frequency Of A Power Supply," was issued on June 19, 2001. The disputed terms of the '876 patent appear in claims 1 and 21:

1. A digital *frequency jittering* circuit for varying the switching frequency of a power supply, comprising:

an oscillator for generating a signal having a switching frequency, the oscillator having a control input for varying the switching frequency;

a *digital to analog converter* coupled to the control input for varying the switching frequency; and

a counter coupled to the output of the oscillator and to the *digital to analog converter*, the counter causing the *digital to analog converter* to adjust the control input and to vary the switching frequency.

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21. A frequency *jittering circuit* for varying a power supply switching frequency, comprising:

an oscillator for generating a signal having a switching frequency, the oscillator having a control input for varying the switching frequency; and

*means coupled to the control input for varying the switching frequency, including:*  
*one or more current sources coupled to the control input;*  
and

*a counter* coupled to the output of the oscillator and to the one or more current sources.

'876 patent, col. 8 lines 42-53; col. 9 lines 54-65; *see also* JCCC at 5-7, 9-14, 14-15.



### **LEGAL STANDARDS**

“It is a bedrock principle of patent law that the claims of a patent define the invention to which the patentee is entitled the right to exclude.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (internal quotation marks omitted). Construing the claims of a patent is a question of law. See *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 977-78 (Fed. Cir. 1995), *aff’d*, 517 U.S. 370, 388-90 (1996). “[T]here is no magic formula or catechism for conducting claim construction.” *Phillips*, 415 F.3d at 1324. Instead, the court is free to attach the appropriate weight to appropriate sources “in light of the statutes and policies that inform patent law.” *Id.*

“[T]he words of a claim are generally given their ordinary and customary meaning . . . [which is] the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application.” *Id.* at 1312-13 (internal citations and quotation marks omitted). “[T]he ordinary meaning of a claim term is its meaning to the ordinary artisan after reading the entire patent.” *Id.* at 1321 (internal quotation marks omitted). The patent specification “is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.” *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996).

While “the claims themselves provide substantial guidance as to the meaning of particular claim terms,” the context of the surrounding words of the claim also must be considered. *Phillips*, 415 F.3d at 1314. Furthermore, “[o]ther claims of the patent in question, both asserted and unasserted, can also be valuable sources of enlightenment . . . [b]ecause claim terms are normally used consistently throughout the patent . . .” *Id.* (internal citation omitted).

It is likewise true that “[d]ifferences among claims can also be a useful guide . . . . For example, the presence of a dependent claim that adds a particular limitation gives rise to a presumption that the limitation in question is not present in the independent claim.” *Id.* at 1314-15 (internal citation omitted). This “presumption is especially strong when the limitation in dispute is the only meaningful difference between an independent and dependent claim, and one party is urging that the limitation in the dependent claim should be read into the independent claim.” *SunRace Roots Enter. Co. v. SRAM Corp.*, 336 F.3d 1298, 1303 (Fed. Cir. 2003).

It is also possible that “the specification may reveal a special definition given to a claim term by the patentee that differs from the meaning it would otherwise possess. In such cases, the inventor’s lexicography governs.” *Phillips*, 415 F.3d at 1316. It bears emphasis that “[e]ven when the specification describes only a single embodiment, the claims of the patent will not be read restrictively unless the patentee has demonstrated a clear intention to limit the claim scope using words or expressions of manifest exclusion or restriction.” *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 906 (Fed. Cir. 2004) (internal quotation marks omitted), *aff’d*, 481 F.3d 1371 (Fed. Cir. 2007).

In addition to the specification, a court “should also consider the patent’s prosecution history, if it is in evidence.” *Markman*, 52 F.3d at 980. The prosecution history, which is “intrinsic evidence,” “consists of the complete record of the proceedings before the PTO [Patent and Trademark Office] and includes the prior art cited during the examination of the patent.” *Phillips*, 415 F.3d at 1317. “[T]he prosecution history can often inform the meaning of the claim language by demonstrating how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it would otherwise be.” *Id.*

A court also may rely on “extrinsic evidence,” which “consists of all evidence external to the patent and prosecution history, including expert and inventor testimony, dictionaries, and learned treatises.” *Markman*, 52 F.3d at 980. For instance, technical dictionaries can assist the court in determining the meaning of a term to those of skill in the relevant art because such dictionaries “endeavor to collect the accepted meanings of terms used in various fields of science and technology.” *Phillips*, 415 F.3d at 1318. In addition, expert testimony can be useful “to ensure that the court’s understanding of the technical aspects of the patent is consistent with that of a person of skill in the art, or to establish that a particular term in the patent or the prior art has a particular meaning in the pertinent field.” *Id.* Nonetheless, courts must not lose sight of the fact that “expert reports and testimony [are] generated at the time of and for the purpose of litigation and thus can suffer from bias that is not present in intrinsic evidence.” *Id.* Overall, while extrinsic evidence “may be useful” to the court, it is “less reliable” than intrinsic evidence, and its consideration “is unlikely to result in a reliable interpretation of patent claim scope unless considered in the context of the intrinsic evidence.” *Id.* at 1318-19.

Finally, “[t]he construction that stays true to the claim language and most naturally aligns with the patent’s description of the invention will be, in the end, the correct construction.” *Renishaw PLC v. Marposs Societa’ per Azioni*, 158 F.3d 1243, 1250 (Fed. Cir. 1998). It follows that “a claim interpretation that would exclude the inventor’s device is rarely the correct interpretation.” *Osram GmbH v. Int’l Trade Comm’n*, 505 F.3d 1351, 1358 (Fed. Cir. 2007) (internal quotation marks omitted). Thus, if possible, claims should be construed to uphold validity. *See In re Yamamoto*, 740 F.2d 1569, 1571 (Fed. Cir. 1984).

## CONSTRUCTION OF THE DISPUTED TERMS

### A. '780 Patent

#### 1. "Multi-sampling . . . during an off-time of said switching signal"

The parties agree that "multi-sampling" requires more than one sample to be taken of the switching signal. (D.I. 118 at 6; D.I. 140 at 10; *see also* D.I. 122 at 17-18.) They disagree, however, as to when those samples must be taken. Fairchild argues that the phrase "multi-sampling . . . during an off-time of said switching signal" does not need construction – but, if the Court does construe it, it should be construed as "sampling the voltage signal across multiple switching cycles when the switching signal is off." (D.I. 122 at 17) Power maintains that the proper construction is "sampling two or more times during one off-time of the switching signal."<sup>1</sup> (Transcript of *Markman* Hearing, D.I. 190 at 54 (hereinafter "Tr."))

The parties agree that the switching signal to be sampled has many cycles, and that one cycle consists of one "on" and one "off" time of the signal. (D.I. 122 at 17; D.I. 138 at 3; D.I. 140 at 11) Key to their conflict is whether the switching signal is sampled two or more times within each off-time of *each* cycle, as Power contends, or whether, as Fairchild claims, the signal need only be sampled at least once during *each off-time* of the signal's many off-times.

According to Fairchild, the plain language of the claim terms supports its construction. This is purportedly the case because, as Power noted in its opening brief, "'a' or 'an' in patent parlance generally means 'one or *more*,'" and, thus, "'multi-sampling . . . during *an* off-time of said switching signal'" "encompasses the taking of multiple samples during the off-times of *more than one* switching cycle." (D.I. 140 at 10-11 (quoting D.I. 118 at 7) (emphasis added))

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<sup>1</sup>This construction is slightly different from the one Power previously supplied in its claim construction briefs. (D.I. 118 at 6; D.I. 138 at 2)

However, as even Fairchild acknowledges, there are circumstances in which “an” may mean only one. “[T]he article ‘a’ or ‘an’ receives a singular interpretation only in rare circumstances when the patentee evinces a *clear intent* to so limit the article.” *Philips Elecs. N. Am. Corp. v. Contec Corp.*, 312 F. Supp. 2d 592, 602 (D. Del. 2004) (internal citation omitted; emphasis added).

Therefore, I turn to the written description and file history of the ‘780 patent to determine whether, in connection with the claim dispute I am considering, the patentee clearly intended that the indefinite article “an” be limited to a singular construction. *See KCJ Corp. v. Kinetic Concepts, Inc.*, 223 F.3d 1351, 1356-57 (Fed. Cir. 2000).

Fairchild asserts that the ‘780 patent’s specification supports its conclusion that “multi-sampling . . . during an off-time of said switching signal” includes sampling the signal only once per each off-time of the signal’s numerous cycles. In Fairchild’s view, “the ‘780 patent describes a sampling operation that takes place in the voltage-waveform detector wherein the voltage of  $V_{AUX}$  is sampled when the transformer is discharging [during the off-time of the switching signal]. The value of  $V_{AUX}$  is held so that it can be used for a comparison to determine when  $V_{AUX}$  begins to drop.” (D.I. 122 at 18) Thus, the signal may be sampled as little as just one time per each cycle’s off-time, and only one sample is held for comparison with the sample signal generated by the next switching cycle. (D.I. 140 at 11)

Power submits, in contrast, that “multi-sampling can[not] be accomplished by taking a single sample during each off-time of multiple, successive switching cycles.” (D.I. 118 at 8) This is because the claimed circuit could not perform its desired function if it operated in the manner described by Fairchild. The multi-sampling operation in the ‘780 patent is meant to detect when the transformer has finished discharging current through the output terminal based on samples of a feedback signal that reflect the state of the output terminals. (D.I. 118 at 8-9;

D.I. 122 at 18) Power claims that the transformer's discharge time could not be measured by taking a single sample from one off-time of the switching cycle because "the end of the discharge time is determined by, and the discharge time signal results from, taking multiple voltage samples until the value of the sensed voltage is different enough from the just-previous sample to indicate the end of the discharge time for that cycle." (D.I. 118 at 8-9 (citing '780 patent at Figs. 2 and 4, and col. 7 line 57 to col. 8 line 50)) Without more than one sample of the discharge time, the claimed circuit could not measure the discharge time and, hence, would not work. (D.I. 118 at 9) Further, each of the patent's references to multi-sampling "appears in the context of a single switching cycle." (D.I. 118 at 8 (citing '780 patent, col. 8 lines 51-67))

Fairchild concedes that Figure 2 of the '780 patent shows voltage signal  $V_{AUX}$  being sampled multiple times in one cycle. (D.I. 122 at 18) However, Fairchild observes that the same figure also shows  $V_{AUX}$  being sampled across multiple cycles. (*Id.*) Additionally, Figure 4 of the '780 patent teaches that only one sample per cycle of  $V_{AUX}$  is used by comparator 155 to determine when the transformer has been discharged (D.I. 140 at 11) – although  $V_{AUX}$  is sampled multiple times "in order to determine when the  $V_{AUX}$  begins to drop in each cycle" (D.I. 122 at 18). Fairchild thus maintains that "the examples suggest neither that the invention is exclusively limited to requiring multi-sampling within a given cycle nor that multi-sampling across multiple switching cycles is outside the scope of the invention." (D.I. 122 at 18)

Power responds that Fairchild's construction ignores the crucial fact that, in order to determine *which* sample of  $V_{AUX}$  should be held by comparator 155,  $V_{AUX}$  must be sampled multiple times during a single cycle. (Tr. at 15) Because the feedback circuit "has to have some consistency over cycle to cycle,"  $V_{AUX}$  needs to be sampled until it starts to drop (as a result of the discharge time signal becoming disabled). (*Id.*) Once it drops, the circuit "knows that the

last sample it took is no good. And it has to go back to the previous one. And that's the one it keeps [for use by comparator 155]." (*Id.* at 17-18)

Taking the '780 patent's claims and specification as a whole, I recommend that the Court adopt Power's proposed construction: "sampling two or more times during one off-time of the switching signal." (*Id.* at 54) While the claim language itself is ambiguous, the specification demonstrates that the voltage signal is sampled at least two times for each of the switching signal's off-times in order for the correct sample to be generated. *See* '780 patent, Fig 2 (showing two samples taken from each of two sample signals,  $V_{SP1}$  and  $V_{SP2}$ , during one off-time); *id.* col. 8 lines 8-13 ("[T]he first sample signal  $V_{SP1}$  and the second sample signal  $V_{SP2}$  are generated in response to the sample-pulse signal. Besides, the first sample signal  $V_{SP1}$  and the second sample signal  $V_{SP2}$  are alternately produced during an enabled period of the discharge-time signal."); *id.* col. 8 lines 56-69 ("[T]he first sample signal  $V_{SP1}$  and second sample signal  $V_{SP2}$  are disabled, and the multi-sampling operation is stopped as the discharge time signal  $S_{DS}$  is disabled."). There is no teaching as to how the circuit would operate if the voltage signal and discharge time were sampled only once during an off-time. For all these reasons, I find a "clear intent" to limit the article "an" to mean "one" in the context of this disputed claim term. *See Philips Elecs.*, 312 F. Supp. 2d at 602.<sup>2</sup>

## **B. '972 Patent**

### **1. Do claims 1 and 15 have "primary-side" limitations?**

The parties' first dispute concerning claims 1 and 15 of Fairchild's '972 patent is whether these claims include a "primary side" limitation. Broadly, Fairchild answers in the affirmative

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<sup>2</sup>Neither party has cited any evidence from the '780 patent's prosecution history that supports a different outcome.

and Power in the negative. I agree with Power that these claims do not contain a primary-side limitation.

Fairchild proposes that the term “a controller to generate the switching signal and to control the switching signal in response to a first feedback signal associated with a voltage current control loop and a second feedback signal associated with a current control loop” in claim 1 be construed as:

Control circuitry that generates a switching signal and controls the switching signal using feedback signals associated with voltage and current control loops to control the output voltage and the output current ***at the primary-side without the need of an optical-coupler or a secondary-side regulator.***

(D.I. 122 at 5 (emphasis added))

Power’s proposed construction is instead:

A controller to generate the switching signal and to control the switching signal in response to a first feedback signal ***derived by measuring a signal representative of an output voltage of the power converter,*** and a second feedback signal, ***distinct from the first feedback signal, derived by measuring a signal representative of a current in the switch.***

(D.I. 118 at 13 (emphasis added))

The essence of the parties’ conflict is whether, as Fairchild proposes, claims 1 and 15 should be construed to include the language “at the primary side without the need of an optical-coupler or secondary-side regulator.” The parties also dispute whether Power’s proposed construction, which adds “distinct from” and how certain signals are derived, is proper.

As an initial matter, it is of crucial importance that the claims in dispute do not contain any language expressly limiting their scope to primary-side control. Claims 1 and 15 do not contain primary-side limitation language, whereas other independent claims in the ‘972 patent



do. See '972 patent, claims 22 and 32.<sup>3</sup> That four out of the patent's six independent claims do not contain primary-side limitations strongly suggests that the patentee did not believe that the very character of the invention required a primary-side limitation. See *Alloc, Inc. v. Int'l Trading Commission*, 342 F.3d 1361, 1370 (Fed. Cir. 2003). Further, the fact that some of the independent claims do have explicit primary-side limitations distinguishes this case from others in which a court has implied a claim limitation that was common to all the disclosed embodiments "but was not explicitly recited as a limitation in any of the claims." *Saunders Group, Inc. v. Comfortrac, Inc.*, 492 F.3d 1326, 1333 (Fed. Cir. 2007) (emphasis added).

Fairchild relies on the numerous indications throughout the '972 patent's specification that the invention being disclosed is a primary-side-control power converter. For example:

- the patent is entitled "Primary-Side-Control Power Converter Using Frequency Hopping and Voltage and Current Control Loops;"
- the patent's "Field:" "The present invention relates generally to power converters and, more particularly, to a primary-side-control power converter having a switching controller using frequency hopping and voltage and current loops" (col. 1 lines 9-12);
- portions of the specification: "Fig. 1 illustrates one example of a schematic diagram of a primary-side-control power converter having a switching controller," and "Thus, a primary-side-control power converter having a switching controller using frequency hopping and voltage and current control loops has been described" (col. 1 lines 65-67; col. 15 lines 9-11); and
- Figure 1 shows the switching controller 70 located on the primary side of the transformer.

(D.I. 122 at 6-8)

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<sup>3</sup>Similarly, the other, related Fairchild patents at issue in this case, the '780 and '595 patents, contain claims expressly limited to primary-side control. See '780 patent, claims 1 and 13; '595 patent, claims 1, 9, 16, and 27.

The background section also distinguishes prior art requiring an “optical-coupler or other secondary-side regulation.”<sup>4</sup> (D.I. 122 at 7) In prior art power converters, some form of secondary-side regulation (*i.e.*, regulation taking place on the output side of the transformer) was necessary to derive the feedback signal that would tell the switching signal (located on the primary side of the transformer) what was happening on the secondary side of the transformer. ‘972 patent, col. 1 lines 24-33. Fairchild noted at the *Markman* hearing that no embodiment or claim in the ‘972 patent teaches how the claimed invention would work using an optical-coupler. (Tr. at 26, 30)

Several things need to be said in response to Fairchild’s contentions. First, while the ‘972 patent is entitled “Primary-Side-Control Power Converter,” the Federal Circuit has noted “the unimportance of a patent’s title to claim construction.” *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1313 (Fed. Cir. 1999); *see also Fastenetix, LLC v. Medtronic Sofamor Danek, Inc.*, 2007 WL 2159613, at \*29 (D.N.J. July 25, 2007). The ‘972 patent’s title, therefore, is not afforded much weight.

Moreover, “the ‘Summary’ section of the [‘972 patent’s] specification contains no reference to ‘primary-side’ control, and the other references to primary-side control in the specification occur in the context of preferred embodiments.” (D.I. 138 at 10) Although the final paragraph of the ‘972 specification does begin by stating that “a primary-side-control power converter . . . has been described,” the last sentence of that same paragraph reads “[t]he specification and drawings are, accordingly, to be regarded in an illustrative sense rather than a restrictive sense.” ‘972 patent, col. 15 lines 17-19. In fact, only two sentences of the ‘972

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<sup>4</sup> *See* Tr. at 26-27 (describing an optical coupler as necessarily a form of secondary-side regulation).

patent's twenty-six paragraph specification describe the invention by referring to a primary-side limitation. *See* '972 patent, col. 1 lines 65-67; col. 15 lines 9-11.

The Background of '972 patent does distinguish prior art which utilized secondary-side regulation. '972 patent, col. 1 lines 24-33.<sup>5</sup> But this language is not unequivocal; it does not "state that the *only way* to accomplish the goal" of reducing size, cost, and EMI is to eliminate secondary-side control or implement primary-side control. *Saunders Group*, 492 F.3d at 1333 (emphasis added); *see also Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 902 (Fed. Cir. 2004) (refusing to read limitation from specification into patent's claims because "asserted claims do not *expressly require* [the limitation], and the common specification does not state that [the limitation] is a *required* component of the inventions") (emphasis added).<sup>6</sup>

Fairchild cites the '972 patent's prosecution history as evidence that the claimed invention should be limited to a primary-side-control power converter. Fairchild argues the Examiner's initial rejection of claim 1 is significant because "[e]ven though the rejected claim 1

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<sup>5</sup>*See also* '972 patent, col. 2 lines 32-35 ("The following examples and implementations overcome disadvantages of prior power converters and can reduce the size cost for power converters and [EMI]."); *id.* at col. 2 lines 42-52 ("[The disclosed] power converter can control the output voltage and the output current at the primary-side without the need of an optical-coupler or a secondary-side regulator. . . . An optical-coupler is therefore not needed to generate a feedback voltage signal.").

<sup>6</sup>As noted, Fairchild also argues that claims 1 and 15 should be limited to "primary-side" control because the '972 patent does not teach an embodiment of the invention that has an optical-coupler, which is a component of a secondary-side regulating system. (Tr. at 26) But "[e]ven where a patent describes only a single embodiment, claims will not be read restrictively unless the patentee has demonstrated a clear intention to limit the claim scope." *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1117 (Fed. Cir. 2004); *see also Saunders Group*, 492 F.3d at 1332-33 (rejecting argument that invention should be read as limited to particular embodiment because specification did not disclose or describe other embodiments of invention). Particularly given the distinctions among the claims discussed above, I have not found evidence of such a clear intention in the specification here.

did not include an express ‘primary-side’ limitation, the Examiner nonetheless regarded it as part of the claim, demonstrating that the Examiner understood the invention was restricted to primary-side control.” (D.I. 122 at 8) Power responds by noting that claim 1 was rejected on several bases aside from the primary-side control limitation. (D.I. 138 at 10) Power further asserts that the Examiner rejected claim 1 as anticipated by prior art that had secondary-side regulation, showing that the Examiner believed secondary-side regulation was relevant to the ‘972 patent’s claims. (D.I. 138 at 11 (citing Ex. D at 5)) Furthermore, even Fairchild concedes that in response to the limited rejection of claim 1, the patentee focused on frequency hopping, not on anything to do with primary versus secondary side control. *See* Tr. at 57 (Fairchild’s counsel stating that “the examiner gave his own reasons as to why these rejections were occurring and that led . . . the patentee to distinguish on the frequency hopping limitation”); *see also* D.I. 120 Ex. 21 at 2, 19. Thus, the prosecution history does not show that the patentee clearly disavowed secondary-side control or clearly distinguished the patent based on a primary-side control limitation. *See SunRace Roots Enter. Co.*, 336 F.3d at 1306 (“[P]rosecution history may not be used to infer the intentional narrowing of a claim absent the applicant’s clear disavowal of claim coverage. . . . To be given effect, such a disclaimer must be ‘clear and unmistakable.’”) (internal citation omitted).

Finally, Fairchild complains that Power’s proposed constructions are an attempt to invalidate claims 1 and 15 by reading them onto prior art (*i.e.*, power converters with secondary-side regulating systems). (D.I. 130 at 1; Tr. at 27) Invalidity is a matter for summary judgment, not claim construction. *See Ampex Corp. v. Eastman Kodak Co.*, 460 F. Supp. 2d 541, 543 n.1 (D. Del. 2006) (“The validity of a claim is not an issue of claim construction . . .”). The disputed claims are not “insolubly ambiguous” and, therefore, may and must be construed.

*Exxon Research & Eng'g Co. v. United States*, 265 F.3d 1371, 1375 (Fed. Cir. 2001). “[T]he axiom regarding the construction to preserve the validity of the claim does not apply” unless a claim remains ambiguous after application of all the available tools of claim construction. *Liebel-Flarshiem*, 358 F.3d at 911 (internal citation omitted).

In sum, I am not persuaded that the ‘972 patent’s specification and prosecution history “as a whole” show “that the very character of the invention *requires* the [primary-side] limitation be a part of *every* embodiment.” *Alloc*, 342 F.3d at 1370 (emphasis added). Thus, I recommend that the Court reject Fairchild’s proposal to import into claims 1 and 15 the limitation “at the primary-side without the need of an optical-coupler or a secondary-side regulator.”

**2. Power’s additional proposed language**

The remaining disputes between the parties over claims 1 and 15 concern Power’s proposals to add (1) the phrase “distinct from the first feedback signal,” and (2) language describing how the two feedback signals are derived. (D.I. 118 at 13-14)

Power provides little to support the inclusion of these phrases in claims 1 and 15, essentially asserting that its proposed construction stems from the “straightforward claim language.” (D.I. 138 at 11-12) Fairchild responds that Power’s construction amounts to an improper importation of extraneous limitations into the ‘972 patent’s claims. (D.I. 140 at 5)

Having reviewed the ‘972 patent’s claims, specification, and prosecution history, I agree with Power that the phrase “distinct from the first feedback signal” provides clarity and accords with the language in the patent’s other claims. I do not agree, however, that the language describing how the two feedback signals are derived is supported. Claims 6 and 8, which both depend on independent claim 1, describe how the first and second feedback signals are

generated.<sup>7</sup> ‘972 patent, col. 15 lines 51-54 (“[T]he controller generates the first feedback signal by sampling a voltage from the auxiliary winding of the transformer . . . .”); col. 15 lines 58-61 (“[T]he controller generates the second feedback signal by sampling of the sensed current from the sense circuit . . . .”). This gives rise to an “especially strong” presumption that this limitation of dependent claims 6 and 8 is not present in claim 1. *See SunRace*, 336 F.3d at 1302-03.

### 3. “Sampling a voltage . . . and a discharge time”

The final dispute over terms in the ‘972 patent arises from dependent claim 6, which describes how the first feedback signal is generated. The parties do not agree as to the proper construction of “sampling a voltage from the auxiliary winding of the transformer and a discharge time of the transformer.” ‘972 patent, col. 15 lines 50-53. Power contends that this term should be construed as “sampling both a voltage signal and a discharge time.” (D.I. 118 at 11; JCCC 34-37) Fairchild, on the other hand, argues that it should be construed as “sampling a voltage from the auxiliary winding of the transformer when the transformer is discharging.” (D.I. 122 at 10)

I recommend that the Court adopt Fairchild’s construction of claim 6 of the ‘972 patent. Claim 6 is grammatically ambiguous with respect to what quantities are being joined by the word “and” in the term in dispute. Claim 6 reads, in pertinent part, “wherein the controller generates the first feedback signal by sampling a voltage from the auxiliary winding of the transformer and a discharge time of the transformer.” ‘972 patent, col. 15 lines 50-53. Hence, “and” might conjoin “auxiliary winding of the transformer” and “a discharge time of the transformer.” (D.I. 140 at 6) Or, as Power suggests, “and” might conjoin “a voltage from the auxiliary winding of

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<sup>7</sup>The same is true of claims 18 and 20, which depend from independent claim 15 and mirror dependent claims 6 and 8. ‘972 patent, col. 16 lines 51-53; col. 16 lines 58-61.

the transformer” and “a discharge time of the transformer.” (D.I. 118 at 11) But when read in the context of the ‘972 patent’s specification, it becomes clear that the first quantity being sampled is the voltage from the auxiliary winding, defined as  $V_{AUX}$ , which is generated during a discharge time of the transformer. See ‘972 patent, col. 3 line 20 to col. 4 line 12; col. 3 lines 52-55; col. 7 lines 48-51; col. 8 line 49 to col. 9 line 30; *see also Vitronics Corp.*, 90 F.3d at 1582 (stating specification is “the single best guide to the meaning of a disputed term”).

The patent’s specification describes in several places how  $V_{AUX}$  is sampled when the transformer is discharging. For instance, the invention’s voltage waveform detector samples and measures  $V_{AUX}$  “instantly before the secondary-side switching current  $I_s$  is discharged to zero.” ‘972 patent, col. 7 lines 48-51. Because the secondary-side switching current  $I_s$  has the same discharge time as the transformer (‘972 patent, col. 3 lines 52-55), the quoted passage shows that  $V_{AUX}$  is sampled and measured before the current  $I_s$  completely discharges, which means that it is sampled and measured during the discharge time of the transformer. (D.I. 122 at 11) Similarly, the specification shows that two sample signals,  $V_{SP1}$  and  $V_{SP2}$ , can alternatively sample  $V_{AUX}$  while the transformer is discharging. ‘972 patent, col. 8 line 49 to col. 9 line 30.

Moreover, claim 6 is specifically directed to sampling the auxiliary voltage  $V_{AUX}$ , not sampling a voltage in general. (D.I. 122 at 10) “When the switching signal  $V_{PWM}$  is off or at a logic low, the electrical energy or power stored in the transformer 10 is delivered to its secondary side . . . . [and] a voltage  $V_{AUX}$  is generated at the auxiliary winding  $N_A$  of the transformer 10.” ‘972 patent, col. 3 line 20 to col. 4 line 12. The deliverance of energy or power from the primary side to secondary side of the transformer is known as “discharging,” and the time during which this occurs is called the “discharge time” of the transformer. (D.I. 122 at 10-11)  $V_{AUX}$  is thus generated at the auxiliary winding while the transformer is discharging. (*Id.* at 11) Additionally,

as Fairchild explains, a person having ordinary skill in the art would understand that “the word ‘sample’ only has meaning with respect to waveforms” (*id.* at 12), and “it is technically impossible to *sample* a discharge time. You can *measure* time” (Tr. at 36 (emphasis added))

Power also contends that Fairchild’s proposed construction – of “and” as “when” – would render dependent claims 8 and 20 nonsensical. (D.I. 118 at 12) Claim 8, for example, recites sampling of a “sensed current” in addition to “a voltage . . . and a discharge time.” (*Id.*) Substituting “when” for “and” in this claim would result in a scientific impossibility, because the particular current sensed in claim 8 only exists *in the absence* of a discharge time (*i.e.*, when the transformer is charging, as opposed to discharging). (*Id.*) But just because the terms “sampling” and “the discharge time of the transformer” appear in claim 6 and in claim 8, to read those phrases without reference to the words between them – as Power would do – is incorrect.<sup>8</sup> Power’s argument fails.

### C. The ‘595 Patent

#### 1. “A second circuit, producing a second signal”

The first conflict over the ‘595 patent’s terms concerns independent claim 16, which reads in relevant part: “a second circuit, producing a second signal in response to a current signal.” ‘595 patent, col. 14 lines 26-27. Power proposes that this term be construed to show how this second signal is produced: “by integrating a current signal with a timing signal that represents a discharge time.” (D.I. 118 at 17; JCCC at 79-80) Fairchild asserts that this term

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<sup>8</sup>In other words, “and” does not necessarily have the same meaning in claim 8’s term – “sampling of the sensed current from the sense circuit and the discharge time of the transformer” – as it does in claim 6’s term – “sampling a voltage from the auxiliary winding of the transformer and a discharge time of the transformer.” ‘972 patent, col. 15 lines 51-53, 59-61.



does not need construction but, if it is construed, it should mean “circuitry for producing a signal in response to a current signal.” (D.I. 122 at 15)

Power bases its construction on the specification’s teaching that a feedback signal can be generated from a current signal only via “second circuit 300,” which operates by integrating the current over the discharge time. (D.I. 118 at 17 (citing ‘595 patent, col. 1 lines 51-55; col. 4 lines 24-32; col. 8 line 64 to col. 9 line 57; col. 5 lines 20-49; and Figs. 3 and 7)) Thus, Power argues its construction properly identifies the process by which the current in the primary winding of the transformer can be correlated with the power supply output current being regulated. (D.I. 118 at 17)

Power further asserts that during prosecution of the ‘595 patent the applicant “expressly distinguished” independent claim 16 – as well claims 22 and 27 (which also refer to a second circuit producing a second signal) – from a prior art reference, Schteynberg, by stating:

Referring to the independent claim 1, the second circuit 300) and third circuit (400), produces a second signal ( $V_I$ ) by integrating a current signal ( $V_W$ ) and the timing signal ( $S_{DS}$ ), which is not taught by Schteynberg. Likewise, Schteynberg also fails to disclose the same second circuit as claimed in independent claims 9, 16, 22 and 27 because neither  $V_{IN,AC}$  nor  $I_{SENSE}$  [is] the claimed second circuit, which is **capable** of producing a second signal ( $V_I$ ) by integrating current signal ( $V_W$ ) and a timing signal ( $S_{DS}$ ).

(D.I. 120 Ex. 14 at 3 (emphasis added)) The “timing signal ( $S_{DS}$ )” is identified in the patent as the discharge time signal. ‘595 patent, col. 4 lines 21-26. Thus, according to Power, the applicant “expressly limited the ‘595 patent by distinguishing the Schteynberg reference on the basis of ‘integrating’ a current signal and a timing signal.” (D.I. 118 at 18) To Power, this “express” limit during prosecution of the ‘595 patent prevents Fairchild from claiming subject matter of any broader scope. (D.I. 138 at 12)

Fairchild, of course, denies that the above-quoted statement is an express disavowal of anything. “[A]t most,” Fairchild insists, the passage “allows for the ‘capability’ of the second circuit being able to produce a second signal by integrating current signal  $V_w$  and a timing signal  $S_{DS}$ . It does not expressly limit the second circuit element by requiring integration to occur.” (D.I. 140 at 9) Fairchild also argues that the doctrine of claim differentiation prevents the inclusion of the “integration element” in claim 16. (D.I. 122 at 14) Claim 9 of the ‘595 patent requires “a second circuit, producing a second signal by integrating a current signal with the timing signal,” where the “timing signal represents a discharge time of the transformer.” ‘595 patent, col. 13 lines 13-16. To add such an integration element to claim 16 would render claim 16 “identical” to claim 9, causing the redundancy that claim differentiation seeks to avoid. *See* D.I. 122 at 15; *see also SunRace*, 336 F.3d at 1303.

Hence, I agree with Fairchild that the disputed term in claim 16 does not need construction. The statement to the PTO in which Power finds a disavowal of a “second circuit” lacking the integration element is not an express disclaimer. A party seeking to show a prosecution disclaimer must demonstrate an “unambiguous” disclaimer, based on “clear and unmistakable evidence” that some of the scope that would otherwise be captured by the claim was relinquished during prosecution. *See Voda v. Cordis Corp.*, 536 F.3d 1311, 1321 (Fed. Cir. 2008). The ‘595 patent applicant’s statement that the prior art did not read on the ‘595 patent’s subject matter because the prior art did not include “the claimed second circuit,” which is “capable” of producing a second signal through integration of the current signal and timing signal, is not unambiguous, clear, or unmistakable.

**2. “First reference signal is varied in  
response to the change of the second signal”**

The parties next disagree as to the proper construction of the term “first reference signal is varied in response to the change of the second signal,” as it is used in claim 17. Power has offered several slightly differing constructions of this term. Power initially proposed a construction of “the analog value of the first reference signal is increased in response to the increase of the analog value of the second signal.” (D.I. 118 at 18) In response to Fairchild’s opening claim construction brief, Power proposed that the first reference signal must vary “continuously relative to the change of the second signal’s value (*i.e.*, in an analog fashion).” (D.I. 138 at 16) Finally, at the *Markman* hearing, Power argued that claim 17 should at least be construed such that the two signals essentially move in the same direction in response to each other, so that their values “track one another . . . over a range.” (Tr. at 73)

Fairchild contends that claim 17 does not require construction. If, however, it is construed, it should be construed as: “the reference signal changes in response to a change in the second signal.” (D.I. 122 at 16) Fairchild rejects Power’s contention that the first reference signal and the second signal must track each other proportionally or in some other correlative manner. To Fairchild, as long as the first reference signal varies in some way in response to the second signal, the claim limitation is satisfied. (D.I. 122 at 17; Tr. at 75)

The claim language does not provide guidance to resolve the parties’ conflict. Turning to the specification, in one embodiment the “first reference signal” and “second signal” of claim 17 are developed and used by operational amplifiers (“op-amps”). ‘595 patent, Figure 3; col. 1 lines 57-61; col. 4 lines 32-42. Power argues that the presence of op-amps in Figure 3 and its accompanying description in the ‘595 patent would indicate to a person with ordinary skill in the

art that the first reference signal and the second signal must be analog signals, because “the inputs and outputs of op-amps *must necessarily be analog*.” (D.I. 118 at 19 (emphasis added)) Fairchild does not directly contest this conclusion (D.I. 174 at 3-4), but argues that one of ordinary skill in the art, “looking at the block diagrams of the ‘595 patent,” “would understand that the depicted circuitry could be implemented using digital or analog circuit techniques, or some combination thereof.” (D.I. 174 at 4) Further, according to Fairchild, a person of ordinary skill in the art would not necessarily read dependent claim 17 as requiring the use of op-amps or any other “specific components for generating or using the ‘second signal’ or ‘first reference signal.’” (D.I. 174 at 2)

On these points, I am persuaded by Fairchild. I conclude that claim 17 of the ‘595 patent does not require construction. Power’s proposed construction asks the Court to read limitations from the invention’s preferred embodiment into claim 17, which on its face does not include the words “analog,” “digital,” “proportionally,” “in an analog fashion” or “operational amplifiers.”

#### **D. ‘851 Patent**

##### **1. “Frequency variation signal”**

The dispute over the construction of claim 11 of the ‘851 patent centers on whether the Court should re-construe the term “frequency variation signal,” given that this term has been already been construed by Judge Farnan in the parties’ previous litigation, *Power Integrations, Inc. v. Fairchild Semiconductor International, Inc.*, 04-1371-JJF (D. Del) (“*Fairchild I*”).<sup>9</sup>

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<sup>9</sup>In Power’s view, the Court should find that Fairchild is “bound by the prior claim construction” due to collateral estoppel because (1) the same claim term is at issue here and in *Fairchild I*, (2) a *Markman* hearing was held in *Fairchild I*, (3) “the Court ruled on claim construction and the terms (on which the jury was instructed) framed the jury verdicts and post-trial rulings” in *Fairchild I*, and (4) Fairchild was represented by counsel at all times in *Fairchild I*. (D.I. 118 at 20-22) However, as explained below, there have been significant subsequent

Power urges the Court to retain Judge Farnan's construction, whereby "frequency variation signal" was construed to mean "an internal signal that cyclically varies in magnitude during a fixed period of time and is used to modulate the frequency of the oscillation signal within a predetermined frequency range." (D.I. 118 at 20) If the Court does construe claim 11 of the '851 patent anew, Power insists there is no reason to reach a conclusion other than the one Judge Farnan reached. (D.I. 118 at 20-21) The "new evidence" that Fairchild believes to be relevant is Power's proposed amendments to claim 11, made in the course of an ongoing reexamination. "At the examiner's request, Power Integrations submitted proposed amendments to the PTO in the '851 [patent] and '876 [patent] reexamination matters that included language to make this Court's previous constructions more explicit in the claims (and in some cases re-wrote claims in independent form)." (D.I. 138 at 23)

Fairchild contends, by contrast, that the additional prosecution history created in the pending reexamination "must be considered," as it is "new intrinsic evidence – including tacit admissions by [Power] – [that] contradicts the earlier claim construction." (D.I. 122 at 27) Based on this new evidence, Fairchild proposes that "frequency variation signal" be construed as "a signal that causes the frequency of the oscillation signal to vary." (*Id.*)

Subsequent to Judge Farnan's claim construction in *Fairchild I*, the PTO began reexamination proceedings regarding the '851 and '876 patents. During reexamination, Power argued that the '851 patent's claimed "frequency variation signal" must be understood as an internal frequency variation signal. (*Id.*) The PTO rejected this argument, stating that the claims

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developments in the '851 patent's prosecution history. *See generally Hawksbill Sea Turtle v. FEMSA*, 126 F.3d 461, 477 (3d Cir. 1997) ("When significant new facts arise out of a continuing course of conduct, the issues in a successive suit may fail to constitute the same 'issue' as to merit preclusive effect.").

did not recite an internal frequency variation signal. (D.I. 122 Ex. X at 10) The PTO similarly rejected Power's assertion that the claimed "frequency variation signal" must vary the oscillation signal within a "predetermined frequency range rather than between two distinct frequencies." (D.I. 122 Ex. X at 13)

Thereafter, Power proposed to the PTO that claim 11 be amended to include the "additional limitations" from Judge Farnan's previous construction in *Fairchild I*. (D.I. 122 Ex. Y at Attachment) Power then amended claim 11 once more to add the limitation "wherein the frequency variation signal is an internally controlled signal within the regulation circuit." (D.I. 122 Ex. Z at 5) Before the PTO could review this amendment, however, Power cancelled claim 11. (D.I. 122 Ex. T at 4) Fairchild argues that Power's initial narrowing and then broadening of claim 11 shows that one of ordinary skill in the art would conclude that the limitations in Power's various proposed amendments were not in the original claim.

Power admits that it cancelled claim 11 on reexamination, but argues that it re-wrote claim 11 as "new" claim 20, at the request of the PTO. (D.I. 120 Ex. 16 at 10 ("The patent owner respectfully submits that proposed new claims 19 and 20 only provide clarifying language that now make specific what was implicit or inherent in the scope of corresponding original claims 1 and 11, respectively, of the '851 patent as understood by the patent owner and construed by the District Court in concurrent litigation."))

I agree with Fairchild that the reexamination history needs to be considered in connection with construing the claims. I do not, however, agree with the conclusion Fairchild would have the Court draw from that history.

Statements by patentees and Examiners are part of a patent's prosecution history, which is intrinsic evidence a court should consider in construing patent claims. *See SRAM Corp. v. AD-II*

*Eng'g, Inc.*, 465 F.3d 1351, 1359 (Fed. Cir. 2006); *Salazar v. Procter & Gamble Co.*, 414 F.3d 1342, 1345 (Fed. Cir. 2005). This is as true of statements made during a reexamination as it is of statements made during the initial prosecution. See *Laitram Corp. v. NEC Corp.*, 952 F.2d 1357, 1361 (Fed. Cir. 1999). This is one reason courts sometimes stay patent litigation pending the resolution of a simultaneous reexamination. See, e.g., *Procter & Gamble Co. v. Kraft Foods Global, Inc.*, 549 F.3d 842, 848 (Fed. Cir. 2008). Also consistent with this conclusion is the Federal Circuit's guidance to district courts (at least in the context of preliminary injunction motions) to "monitor the proceedings before the PTO to ascertain whether its construction of any of the claims has been impacted by further action at the PTO or any subsequent proceedings." *Kraft*, 549 F.3d at 848.

There are important differences, however, between claim construction before the PTO and claim construction before an Article III Court. A PTO Examiner construing claims is required to do so applying the broadest reasonable construction consistent with the specification. See *In re Morris*, 127 F.3d 1048, 1054 (Fed. Cir. 1997); see also *In re American Academy of Science Tech Center*, 367 F.3d 1359, 1364 (Fed. Cir. 2004) ("The broadest reasonable construction rule applies to reexamination as well as initial examinations.") (internal quotation marks omitted). Courts do not apply this "broadest reasonable construction" rule. Also, before the PTO, any ambiguity or excessive breadth in a patent claim may be corrected by amending the claim. See *Burlington Indus. Inc. v. Quigg*, 822 F.2d 1581, 1583 (Fed. Cir. 1987). This is not a possible outcome of judicial claim construction.

Once claim construction is before a court, the court is obligated to construe claims *de novo* as a matter of law, without according any deference to the PTO's claim construction. See *SRAM*, 465 F.3d at 1359 (noting *de novo* standard of judicial review and rejecting construction

endorsed by PTO Examiner after three reexaminations, a construction that had also been adopted by the district court); *Salazar*, 414 F.3d at 1343, 1347-48 (“[T]he Examiner’s unilateral remarks did not alter the scope of the claim . . . . [An] Examiner’s statements cannot amend a claim.”); *Inverness Medical Switzerland v. Princeton Biomeditech Corp.*, 309 F.3d 1365, 1372-73 (Fed. Cir. 2002) (rejecting contention that statement in examiner’s Reasons for Allowance governed construction of disputed claim term). Of course, a district court can – and must – adopt the same construction as the PTO when the court concludes that the PTO’s construction is correct. *See, e.g., Biogen*, 318 F.3d 1132, 1132 (Fed. Cir. 2003) (affirming district court’s construction, which itself was itself consistent with PTO Examiner’s view that scope of disputed term had been limited during prosecution, as advocated by alleged infringer).

Having considered the evidence before me, including the additional intrinsic evidence created during the reexamination, I reach the same conclusion as Judge Farnan as to the correct construction of “frequency variation signal,” as that term is used in claim 11 of the ‘851 patent. The requirement that the variation be within a known and fixed frequency range is explained in several places in the specification. *See, e.g.,* ‘851 patent, col. 6 lines 10-17; col. 6 lines 25-38; col. 7 lines 43-49; col. 11 lines 45-50; *see also Fairchild I*, D.I. 231 at 35-37. This requirement also accords with the purpose of the ‘851 patent, which was to avoid the disadvantages of prior art (that used externally controlled frequency variation methods to prevent EMI) by implementing a variation scheme that could be internally controlled. *See* ‘851 patent, col. 7 lines 43-49.



**E. '876 Patent**

**1. "Frequency jittering"**

The parties' disagreements as to the meaning of the term "frequency jittering," as it appears in the preamble to claims 1 and 21 of the '876 patent, are: (1) whether the term can be interpreted as a limitation, and (2) whether the term should be construed anew. Power again asks the Court to preserve Judge Farnan's construction in *Fairchild I*, which construed "frequency jittering" to mean "varying the switching frequency of a switch mode power supply about a target frequency in order to reduce electromagnetic interference." (D.I. 118 at 20; *see also Fairchild I*, D.I. 232 at 2.) Fairchild, on the other hand, urges the Court not to construe this term because it is not a limitation, since it only appears in the '876 patent's preamble. (D.I. 122 at 20; D.I. 118 at 16) If the Court does construe the term, however, Fairchild proposes it be given the inventor's "express definition: varying the frequency of operation of the pulse width modulated switch by varying the oscillation frequency of the oscillator [which] is referred to as frequency jitter." (D.I. 140 at 16-17)

As occurred with the '851 patent, the PTO commenced reexamination proceedings regarding the '876 patent after the issuance of Judge Farnan's claim construction opinion in *Fairchild I*. The PTO rejected claim 1 of the '876 patent as anticipated by prior art. (D.I. 122 Ex. G at 3-6) Power responded by arguing that claim 1's preamble "was a limitation that required the reduction of electromagnetic interference or 'EMI.'" (D.I. 122 Ex. H at 18) The Examiner replied to Power as follows:

(1) The recitations "a power supply" in claim 1 and "a power conversion system" in claim 17 have not been given patentable weight because the recitations occur in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a

structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone.

(2) It is noted that the feature upon which the Patent Owner relies (i.e., EMI in a power supply) is not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims.

(D.I. 122 Ex. I at 7 (internal citations omitted)) Fairchild contends that because Power “did not dispute the Examiner’s determination that the preamble was not a limitation,” and instead amended the claims to incorporate the preamble into the body of the claims, Power “admitted that this amendment was necessary because the claims would not otherwise include elements that only appeared in the preamble.” (D.I. 122 at 20; *see also* D.I. 122 Ex. K at 11 (“This clarifying amendment is proposed so that proper antecedent basis is provided for the switching frequency of the power supply.”).)

Fairchild further contends that the ‘876 patent’s claimed invention “does not require EMI reduction.” (D.I. 122 at 20) During reexamination, the PTO stated that prior art Habetler, which “does not deal with EMI in a power supply,” is “reasonably pertinent to the particular problem with which the [‘876] Patentee was concerned, *i.e.*, varying the switching frequency in PWM regulator.” (D.I. 122 Ex. I at 7) To Fairchild, the PTO’s view aligns with “the other claims of the ‘876 patent, which require varying the switching frequency but make no mention of EMI reduction.” (D.I. 122 at 20)

Moreover, Fairchild asserts that Power acted as its own lexicographer by defining “frequency jitter” in the ‘851 patent, which was incorporated by reference into the ‘876 patent. ‘876 patent, col. 6 lines 6-12. “When a document is ‘incorporated by reference’ into a host document, such as a patent, the referenced document becomes effectively part of the host

document as if it were explicitly contained therein.” *Telemac Cellular v. Topp Telecom*, 247 F.3d 1316, 1329 (Fed. Cir. 2001). When a patent’s specification demonstrates that the patentee gave a “special definition [] to a claim term . . . that differs from the meaning it would otherwise possess . . . the inventor’s lexicography governs.” *Phillips*, 415 F.3d at 1316. Thus, to Fairchild, what Fairchild identifies as the ‘851 patent’s definition of “frequency jitter” as “varying the frequency of operation of the pulse width modulated switch by varying the oscillation frequency of the oscillator,” should control the term’s construction in the ‘876 patent. ‘851 patent, col. 3 lines 28-30.

Power responds with most of the same points it made in relation to the construction of the term “frequency variation signal” in the ‘851 patent. Power argues that Fairchild is bound by collateral estoppel to the claim construction in *Fairchild I* (D.I. 118 at 21-22), and that the Court should not consider the reexamination because it is ongoing (D.I. 138 at 17-20). Even if the Court does consider the reexamination proceedings, Power maintains that the reexamination evidence does not undermine its proposed construction of “frequency jitter.” Power points out that the Examiner was not referring directly to the “frequency jitter” portion of the preamble to claim 1 when he wrote that “a power supply” was not given patentable weight because it appeared in the preamble. (D.I. 138 at 21; *see also* D.I. 122 Ex. I at 7.) The PTO Examiner did not make a general statement that no preamble could be a limitation, just that two particular phrases in the preambles to claims 1 and 17 were not limitations.

Furthermore, Power points out that the amendments submitted to the PTO are not addressed to “frequency jitter,” and were submitted in an effort to clarify features inherent in the claims’ scope. (D.I. 122 Ex. K at 2, 11) Indeed, the passages of the reexamination history cited by Fairchild do not apply to “frequency jitter” – as the term appears only in the preamble to claim

21, and claim 21 is not in reexamination. (D.I. 138 at 22) Finally, Power insists that even if the PTO Examiner did reach a conclusion that contradicted Judge Farnan's prior construction, "the law neither requires nor suggests that [the district court and the PTO] be in lockstep." (D.I. 138 at 22)

Again, I agree with Fairchild that the ongoing reexamination proceedings are intrinsic evidence and must be considered in construing the disputed claim terms. However, after reviewing the '876 patent's claims, specification, and prosecution history, including the reexamination proceedings, I recommend that the Court adopt Power's proposed construction of "frequency jitter."

As Fairchild concedes, "the earlier '851 patent broadly claims a 'frequency variation circuit' while the later '876 patent more narrowly concerns a digital implementation." (D.I. 122 at 18-19) For this reason, the '851 patent's broader definition of "frequency jitter" appears to be a more general description of "frequency jitter," and not a definition of the "frequency jittering" disclosed in the '876 patent. *See* D.I. 118 at 23; *see also Fairchild I*, D.I. 231 at 19; '851 patent, col. 3 lines 28-30. Many places in the '876 patent's specification refer to varying the switching frequency about a narrow, known, or fixed range of frequencies in order to reduce EMI. *See, e.g.,* '876 patent, col. 5 line 66 to col. 6 line 1; col. 6 lines 20-23, 29-30, 61-64. Thus, I am persuaded that Power's claim construction proposal is still correct.

## **2. "Digital to analog converter [DAC]"**

The parties next dispute the proper construction of the term "digital to analog converter," or DAC, as used in claim 1 of the '876 patent. Power urges the Court not to construe this term because it is "a conventional structure, well-known to anyone of skill in the art of circuit design as a device that converts digital inputs into analog outputs." (D.I. 118 at 24) However, if the

Court does construe DAC, Power argues it should be understood to mean “a device that converts a digital input into an analog output.” (*Id.* at 24) In something of a reversal of roles, Fairchild asks the Court to retain what it characterizes as Power’s proposed construction of the term from *Fairchild I*: “a digital to analog converter is a device that converts a digital input signal to a . . . proportional analog signal.”<sup>10</sup> (D.I. 122 at 21)

Fairchild argues that its proposed construction was essentially agreed upon by the parties in *Fairchild I*, and there is no reason to allow Power to deviate from its earlier construction. (*Id.* at 21-22; D.I. 140 at 17; Tr. at 137-38) Fairchild also relies on the ‘876 patent’s specification, which states that:

When [DAC] 150 is viewed as a plurality of current sources . . . [t]he current sources . . . are binary-weighted, that is, the current source 164 provides twice the current provided by the current source 160, the current source 160 provides twice the current supplied by the current source 156 and the current source 156 provides twice the current provided by the current source 152.

‘876 patent, col. 5 lines 5-21. Finally, Fairchild points to several contemporary dictionary definitions supporting its assertion that the digital inputs and analog outputs be “proportional.” (D.I. 122 at 22)

Power denies that in *Fairchild I* it agreed that “digital to analog converter” needed construction. (D.I. 122 Ex. M at 2-3) It is true that in a communication between the parties Power at one point proposed the construction of “digital to analog converter” Fairchild now proposes here. However, this proposal was never submitted to the Court, nor did the parties ask Judge Farnan to construe this term. Power contends it cannot be bound by its statements to

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<sup>10</sup>Fairchild had earlier proposed “essentially proportional” (D.I. 122 at 22), but at the *Markman* hearing proposed dropping the word “essentially” (Tr. at 141-42).

Fairchild on issues that were not litigated nor addressed by the Court in *Fairchild I.* (D.I. 138 at 24-25)

Power also notes that the specification does not support Fairchild's proposal to add a "proportional" limitation to the DAC. The specification recites that the current sources attached to the DAC may be arranged such that "the primary current source generates a current I and each of said one or more current sources generates a current lower than I." '876 patent, col. 2 lines 35-40. Additionally, claim 9 of the '876 patent, which depends from claim 1, explicitly teaches that "the secondary current sources [of the DAC] generate binary weighted currents." '876 patent, col. 9 lines 6-8. Therefore, Power submits that the doctrine of claim differentiation also precludes Fairchild's proposed construction because it would read the limitation from dependent claim 9 onto independent claim 1. (D.I. 118 at 24)

After considering the claim language, specification, and prosecution and litigation history of claim 1 of the '876 patent, I am persuaded that the term "digital to analog converter" does not need construction.<sup>11</sup> Power is not estopped from changing its view of the term's meaning by a position it temporarily advocated in correspondence with Fairchild on an issue that was not litigated nor addressed by the Court. The '876 patent's specification also demonstrates that the DAC's current sources may be configured in ways not necessarily proportional, and also that the DAC need not even be implemented through current sources. '876 patent, col. 2 lines 35-40; col. 4 lines 63-66 ("The remaining outputs . . . are connected to a digital-to-analog converter (D-to-A) 150, which *may be implemented as a series of frequency jittering voltage sources or current*

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<sup>11</sup>Nothing in the extrinsic evidence submitted by the parties – which consists largely of dictionary definitions of DAC – alters the conclusion compelled by the intrinsic evidence.

*sources.*”) (emphasis added). I also agree with Power that claim differentiation weighs against importing the proportionality limitation from dependent claim 9 onto independent claim 1.

### 3. **“Means . . . for varying the switching frequency”**

The last terms in dispute are found in claim 21. Power and Fairchild agree that claim 21 is written in means-plus function format, pursuant to 35 U.S.C. § 112(6). A means-plus-function claim limitation “recites a function to be performed rather than definite structure or materials for performing that function.” *Lockheed Martin Corp. v. Space Sys./Loral, Inc.*, 324 F.3d 1308, 1318 (Fed. Cir. 2003). When construing a means-plus-function claim, a court must first determine the function that is being performed, “staying true to the claim language and the limitations expressly recited by the claims.” *Omega Eng’g v. Raytek Corp.*, 334 F.3d 1314, 1322 (Fed. Cir. 2003). Next, the “court must . . . look to the specification and identify the corresponding structure for that function.” *Biomedino, LLC v. Waters Techs. Corp.*, 490 F.3d 946, 950 (Fed. Cir. 2007).

A claim limitation using a means-plus-function format covers “only the corresponding step or structure disclosed in the written description, as well as that step or structure’s equivalents.” *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1369 (Fed. Cir. 2000). “A structure disclosed in the specification qualifies as ‘corresponding’ only if the specification or prosecution history clearly links or associates that structure to the function recited in the claim.” *Cross Med. Prods., Inc. v. Medtronic Sofamor Danek, Inc.*, 424 F.3d 1293, 1308-09 (Fed. Cir. 2005). The claim limitation thus covers only the structure, material, or acts that a person ordinarily skilled in the art would find are necessary to perform the function. *See Omega Eng’g*, 334 F.3d at 1322. Accordingly, the scope of a claim in means-plus-function format is generally

more narrow than for claims that are not in this format. *See Micro Chem., Inc. v. Great Plains Chem. Co.*, 194 F.3d 1250, 1260 (Fed. Cir. 1999).

In this case, Fairchild and Power concur that the function element of claim 21 is “varying the switching frequency of the oscillator,” but they disagree as to what corresponding structures perform that function. (D.I. 118 at 25; D.I. 122 at 23) I agree with the parties that the claimed function is “varying the switching frequency of the oscillator.” Additionally, at the *Markman* hearing, Power conceded that the claimed counter was part of the corresponding structure. (Tr. at 113) The parties’ remaining disagreements involve identifying the correct structure(s) that correspond to “one or more current sources” and “a counter.”

**a. “One or more current sources”**

Fairchild and Power agree that the structure corresponding to “one or more current sources” is the digital to analog converter (DAC) 150. (D.I. 118 at 25-26; D.I. 122 at 25; D.I. 138 at 27) They disagree, however, as to whether the DAC must have exactly four binary-weighted current sources.

Power recognizes that the DAC drawn in Figure 1 of the ‘876 patent has exactly four binary-weighted current sources and four transistors. Power argues that Figure 1 is the invention’s preferred embodiment, so the corresponding structure should not be limited to this one embodiment of a DAC. (D.I. 118 at 26-28) Power asserts: “The specification is clear that the DAC ‘may include one or more current sources,’ not that it necessarily has four current sources and four transistors.” (D.I. 118 at 28 (quoting ‘876 patent, col. 2 lines 63-66)) Power also maintains that the current sources described in the specification are not necessarily binary-weighted, but that they “may” generate currents at various differing levels or “may” generate binary-weighted currents. (D.I. 118 at 28 (quoting ‘876 patent, col. 2 lines 20-23)) Further, the



‘876 patent specifies that the DAC 150 “may be implemented as a series of frequency jittering voltage sources or current sources.” (D.I. 138 at 27 (quoting ‘876 patent, col. 4 lines 64-66))

Lastly, Power suggests that Figures 3 and 4 of the ‘876 patent disclose an alternative structure for varying the switching frequency of an oscillator, demonstrating again that the claim is not limited to the structure illustrated by Figure 1. (D.I. 118 at 27 (citing ‘876 patent, col. 6 lines 20-26))

Fairchild responds that the only disclosed structure in the ‘876 patent that can perform the function of “varying the switching frequency of the oscillator” using the means generally described in claim 21 (*i.e.*, with one or more current sources and a counter) is the DAC 150, “which includes four binary weighted current sources controlled by four transistors.” (D.I. 122 at 26 (citing ‘876 patent, col. 5 lines 5-21)) Fairchild argues that no other structure disclosed in the ‘876 patent “would meet [claim 21’s] limitation other than the DAC with binary weighted current sources.” (D.I. 122 at 26) Fairchild also points out that the structures disclosed in Figures 3 and 4 do not include the counter required by claim 21. (D.I. 140 at 20 n.6)

On this dispute, I am persuaded that Power is correct. The specification describes DACs that do not have four binary-weighted current sources, but do perform the disclosed function. *See* ‘876 patent, col. 2 lines 20-23, 63-66; *see also Budde v. Harley Davidson, Inc.*, 250 F.3d 1369, 1370 (Fed. Cir. 2000) (approving use of all alternative structures described in patent’s specification, not just preferred embodiment, in identifying corresponding structure in mean-plus-function claim). “When multiple embodiments in the specification correspond to the claimed function, proper application of [§112(6)] generally reads the claim element to embrace each of those embodiments.” *Micro Chem., Inc.*, 194 F.3d at 1258.<sup>12</sup>

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<sup>12</sup>However, I agree with Fairchild that the DAC cannot be implemented through means lacking *current sources* (such as embodiments using only voltage sources or capacitors), because

**b. “A counter”**

The conflict over what structures correspond to “a counter” in claim 21 is whether, as Fairchild posits, the counter must be a 7-bit counter like the one illustrated by Figure 1 of the ‘876 patent. (D.I. 122 at 27) In support of its position, Fairchild notes that the only counter disclosed by the ‘876 patent is counter 140, which the patent describes as having exactly 7 bits. (D.I. 122 at 27 (citing ‘876 patent, col. 4 lines 62-66))

Power points to one sentence in the patent’s specification to show that the counter that is part of the means element of claim 21 could contain something other than 7 bits: “The counter 140 *can* be a seven bit counter.” ‘876 patent, col. 4 lines 32-34 (emphasis added). Thus, Power argues that “nothing in the claim language requires a ‘7-bit counter,’ as opposed to a counter with any number of bits.” (D.I. 138 at 29)

I have concluded that the structure corresponding to “a counter” in the means element of claim 21 is somewhere in between Power’s and Fairchild’s proposals. Power’s contention that the counter could have any number of bits is belied by the numerous places in the specification showing that at least 4 bits are necessary to permit the oscillator 110 to function. *See* ‘876 patent, col. 4 lines 33-34 (“Each output of counter 140, when clocked by primary oscillator 110, represents a particular time interval.”); col. 4 lines 62-64 (“Counter 140 has a plurality of outputs Q1-Q3 [] which are not used. The remaining outputs Q4-Q7 are connected to [DAC] 150 . . . .”); col. 5 lines 29-35 (describing how Q4-Q7 change states at predetermined times during the clock cycle, after which “[t]he entire counting cycle . . . repeats itself”); col. 5 lines 49-52 (“[W]hen combinations of outputs Q4-Q7 are turned on, the outputs of the respective current sources 152,

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the claim expressly limits itself to means having one or more current sources.

156, 160, and 164 are added to the output of current source 122 to vary the frequency of the primary oscillator 110.”). Similarly, the specification shows that only four of the counter’s bits are used in the counter’s operation, undermining Fairchild’s proposal that it must have seven bits. *See* ‘876 patent col. 4 lines 62-66; col. 5 lines 29-35, 49-56. Therefore, I conclude that the structure corresponding to the counter means of claim 21 must contain at least four bits, but need not contain exactly seven.

### **RECOMMENDED CONSTRUCTIONS**

For the reasons set forth above, I recommend that the Court construe the disputed claim terms as follows:

1. The term “multi-sampling . . . during an off-time of the said switching signal” as used in claims 1 and 13 of the ‘780 patent be construed as “sampling two or more times during one off-time of the switching signal.”

2. a. The term “a controller to generate the switching signal and to control the switching signal in response to a first feedback signal associated with a voltage control loop and a second feedback signal associated with a current control loop” as used in claim 1 of the ‘972 patent be construed as “a controller to generate the switching signal and to control the switching signal in response to a first feedback signal associated with a voltage control loop and a second feedback signal, distinct from the first feedback signal, associated with a current control loop.”

2. b. The term “controlling a switching signal to regulate the connection of the electrical power to output terminals in response to a first feedback signal associated with a voltage control loop and a second feedback signal associated with a current control loop” as used in claim 15 of the ‘972 patent be construed as “controlling a switching signal to regulate the

connection of the electrical power to output terminals in response to a first feedback signal associated with a voltage control loop and a second feedback signal, distinct from the first feedback signal, associated with a current control loop.”

3. The term “sampling a voltage . . . and a discharge time” as used in claim 6 of the ‘972 patent be construed as “sampling a voltage from the auxiliary winding of the transformer when the transformer is discharging.”

4. The term “a second circuit, producing a second signal” as used in claim 16 of the ‘595 patent does not require construction.

5. The term “first reference signal is varied in response to the change of the second signal” as used in claim 17 of the ‘595 patent does not require construction.

6. The term “frequency variation signal” as used in claim 11 of the ‘851 patent be construed as “an internal signal that cyclically varies in magnitude during a fixed period of time and is used to modulate the frequency of the oscillation signal within a predetermined frequency range.”

7. The term “frequency jittering” term as used in claims 1 and 21 of the ‘876 patent be construed as “varying the switching frequency of a switch mode power supply about a target frequency in order to reduce electromagnetic interference.”

8. The term “digital to analog converter” term as used in claim 1 of the ‘876 patent does not require construction.

9. The term “means coupled to the control input for varying the switching frequency, including: one or more current sources . . . and a counter” as used in claim 21 of the ‘876 patent be construed as a means-plus function term, with a function of “varying the switching frequency

of the oscillator,” and a structure of a digital-to-analog converter and a counter having at least four bits.

This Report and Recommendation is filed pursuant to 28 U.S.C. § 636(b)(1)(B), Fed. R. Civ. P. 72(b)(1), and D. Del. LR 72.1. The parties may serve and file specific written objections **of no longer than ten (10) pages within fourteen (14) days after being served with a copy of this Report and Recommendation.** Fed. R. Civ. P. 72(b). The failure of a party to object to legal conclusions may result in the loss of the right to de novo review in the district court. *See Henderson v. Carlson*, 812 F.2d 874, 878-79 (3d Cir. 1987); *Sincavage v. Barnhart*, 171 Fed. Appx. 924, 925 n.1 (3d Cir. 2006). **A party responding to objections may do so within fourteen (14) days after being served with a copy of objections; such response shall not exceed ten (10) pages. No further briefing shall be permitted with respect to objections without leave of the Court.**

The parties are directed to the Court’s Standing Order In Non-*Pro Se* Matters For Objections Filed Under Fed. R. Civ. P. 72, dated November 16, 2009, a copy of which is available on the Court’s website, [www.ded.uscourts.gov/StandingOrdersMain.htm](http://www.ded.uscourts.gov/StandingOrdersMain.htm).

Dated: December 18, 2009

  
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Leonard P. Stark  
UNITED STATES MAGISTRATE JUDGE